EVALUATION OF THE PERFORMANCE OF IMPLEMENTATION OF STRATEGIC MEASURES OF ENSURING ECONOMIC SECURITY OF ENTERPRISES

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1. Introduction

The enterprises, setting themselves strategic goals, are implementing appropriate measures to achieve them, obviously. It is similar with economic security: for the formation of the future of any enterprise, it is important that in this future it not only does not lose the achieved level of economic security, but also increases it. To this end, safety-free events are differentiated, as a rule, into current and strategic ones. Therefore, a feature of ensuring the economic security of an enterprise is that it is not limited to the current period, but also has a strategic focus. At the same time, in contrast to the prevailing opinion about the specificity of strategic safety-free events, let's believe that they can't be isolated from the general strategic management of the enterprise, and therefore are a part of it. The aforementioned determines the relevance of additional research on strategic areas of ensuring economic security.

2. The object of research and its technological audit

The object of research is the process of evaluating the strategic support of the economic security of the enterprise.

Within the framework of the object, the part that determines the subject of research is highlighted: the method and methodology for evaluating the feasibility of mergers and acquisitions. One of the most problematic places in this block is the shortage of accounting for changes in the level of economic security that occur as a result of such operations.

3. The aim and objectives of research

The aim of research is improvement of the methodology for evaluating the feasibility of strategic measures to ensure the economic security of enterprises.
To achieve this aim it is necessary to solve the following objectives:

1. To analyze the directions of strategic support of the economic security of the enterprise and identify the most important in today’s conditions.
2. Take into account the additional effects that may be obtained as a result of M&A transactions (from the English Mergers and Acquisitions) when assessing the appropriateness of such operations.
3. To substantiate the effect of the results of M&A transactions on changing the level of economic security of enterprises.

4. Research of existing solutions of the problem

One of the key strategic measures of most enterprises is the implementation of real investment projects [1], as well as mergers and acquisitions (M&A transactions). It should be noted that due to mergers and acquisitions carried out in the past between separate enterprises, affiliation arises. The latter makes it possible to carry out the reallocation of financial resources between enterprises – affiliates, investing in the authorized funds of such persons, as well as providing them with loans [1, 2].

Among the main areas of ensuring economic security identified in world resources, works can be singled out [3, 4], but they ignored a whole layer of business entities, which are industrial enterprises. The opposite approach is described by the authors of [5], but the national economy is chosen as the main object of ensuring economic security, which indicates a macroeconomic approach and leaves unresolved the issue of enterprise safety in the strategic period. The combination of macro- and micro-approaches is characterized by the work of East European scientists, they are considering directions for ensuring the economic security of enterprises in conditions of instability of national economies [6]. However, despite taking into account the factors of mass bankruptcies of enterprises, which result in the possibility of buying up impaired assets, the authors of [6] do not consider the issue of a possible improvement in the economic security of enterprises through mergers and acquisitions.

The work [7] addresses the issue of security from the point of view of financing securities. This event is one of the areas of long-term financing that can be used to improve the economic security of enterprises. However, the authors of the work do not consider it from this point of view. But they determine the safety of financial investment directly.

The work of [8] emphasizes the importance of collective action and the use of special measures to ensure the security of the least active producer in the system, which is considered the national economy. Let’s consider this approach appropriate for application on the example of another system – a business combination, formed as a result of mergers and acquisitions. However, the work [8] does not address the issues of evaluating such events.

In [9], a list of indicators for assessing the economic security of enterprises and their variability is determined taking into account the time factor. However, ensuring economic security in the strategic period has not been covered.

The author of [10] widely presents the concepts of economic security in modern society, but insufficient attention has been paid to the issues of evaluating measures to ensure it. In particular, there is no distinction and no differences were found in assessing the appropriateness of current and strategic activities. A similar omission is characterized by the approach described in [11]. The authors of this approach conducted a study at a fairly high level of institutional support for economic security. However, the issues of the possibility of takeover of enterprises, the formation of holdings, and other strategic measures, as well as an assessment of their feasibility in terms of changing the level of economic security, were ignored.

So, a critical review of scientific works revealed a problem, which is the shortage of systematic research on the study of strategic measures to ensure the economic security of enterprises and methods for assessing their feasibility.

Summarizing the strategic directions of ensuring the economic security of the enterprise, which scientists point out, as well as having practical implementation in a developing economy (Fig. 1), let’s believe that today, the key strategic direction of enterprise development is M&A transactions, the implementation of which is accompanied by various types of effects like for the company – the buyer (holding), and for the company – the object of purchase.

Mergers and acquisitions is a direction that includes both real and financial investment. Therefore, it is they who need a detailed study. The actualization of such a study is also due to the fact that against the background of the present: crisis phenomena caused by both the coronavirus pandemic and cyclical and other economic factors, massive problems with the solvency of many enterprises of various scales and areas of management are outlined. In such conditions, they become cheap assets suitable for purchase by more economically sustainable enterprises.

At first glance, it seems logical that, whatever the initial motives for conducting mergers and acquisitions, as a result of their implementation, the level of economic security of all participating enterprises will certainly be changed.

Indeed, such a change will take place, but not always and not for each participant in the operation, it will be positive. The fact is that the economic security of the enterprise has a complex ramified hierarchy, which includes various types and corresponding subspecies. Including it includes the security of the economic interests of personnel, owners, the territorial community and other stakeholders dependent on the enterprise. In this regard, the level of some types of economic security of an enterprise may indeed increase significantly, but at the level of others it may not only not change, but even worsen.

![Strategy directions for ensuring the economic security of the enterprise](image-url)

**Fig. 1.** Key strategic directions for ensuring the economic security of the enterprise (compiled and supplemented by the author on the basis of generalization [1, 2])
As the author of the work [2] correctly notes, as a result of M&A transactions, a company – a new owner (holding) and an enterprise – an object of purchase can receive synergistic effects, as a result of which the level of economic security of both of them will increase. At the same time, the scientist lists the types of security, the level of which can change (profitability, financial condition, technical and economic level, socio-economic and market level, reputation) and offers an indicator of security synergy (\(B_{syn}\)):

\[
B_{syn} = fnorm_1 - fnorm_0,
\]

where \(fnorm_0\) is the estimated value of the enterprise value obtained by substituting in the economic and mathematical model the cost of profit before interest expenses, taxes and depreciation deductions EBITDA (from the English Earnings before Interest, Taxes, Depreciation and Amortization), respectively, after and before the M&A transaction, c. u. In the future, the author of [2] considers the change in the level of security of the financial condition of enterprises – participants of the holding (\(K_{sec}\)) due to the redistribution of financial resources between them using this model [2]:

\[
K_{sec} = \frac{S_0 + (f_{norm} - f_a)}{S_0 + (f_{norm} - f_a)}
\]

where \(f_{norm}, f_a\) – the estimated value of the enterprise value obtained by substituting in the economic and mathematical model the standard EBITDA value in the economic and mathematical model, c. u.; \(S_0\) – the actual value of the enterprise to a change in financial condition, c. u.

As a criterion of the above model, its developer named more the value of the ratio of the actual value of the estimated business value to the reference value. Additionally, this model was proposed to assess the feasibility of M&A transactions [2].

It should be noted that the considered methodological approaches have a number of omissions. The main of them is that, firstly, the scientist’s attention was left to methodological approaches to optimizing the distribution of investment resources to increase the level of other types of economic security, but a proposal was put forward to conduct it similarly. At the same time, the assessment of the level of individual components of economic security is distinguished by its specificity, especially the security of stakeholders, which is why the unification of approaches to optimizing resources in order to increase their level is not advisable. In this regard, there is no explanation of how they could be combined in one model. Secondly, a number of factors affect the value of an enterprise, the value of which during M&A transactions can vary significantly, and not just the EBITDA margin. Such a change in the model considered is not provided at all. Therefore, in the results of determining changes in the value of a business, based on the assessment of one indicator – the difference between the EBITDA profits obtained as a result of a change in financial condition, a fixed error of other indicators may lead to a gross error. Thirdly, M&A deals have a certain value. On the one hand, the acquisition cost of an enterprise – an object for its buyer is characterized by large amounts of expenses (premiums for control, organizational losses by agreement and other integration costs). Therefore, the value of such expenses should be taken into account when assessing changes in the level of economic security of a company – a buyer (holding). On the other hand, the seller company receives a certain amount of funds in the form of sales proceeds, the value of which also affects the change in the level of economic security. In addition to them, this effect is carried out by losses from the sale of the existing profitable business, generated cash flows, which also influenced the dynamics of the level of economic security of the enterprise itself and its stakeholders. Fourthly, when acquiring a certain enterprise, it is necessary to take into account the problems it has not only economic, but also socio-ecological, informational, criminal, organizational and other. This negatively affects the level of economic security in general and its individual types in particular. Therefore, in addition to safety synergy, it is advisable to pay additional attention to possible anergy and take into account the corresponding anergic effects in M&A transactions. There are other comments that will be disclosed in subsequent studies.

In addition, it is necessary to take into account that the results of both synergy and energy may not appear in the same year that corresponds to the date of the transaction, but after a few years (if they are single) and/or during a certain period (if such effects are systematic). In this regard, the indicator of the feasibility of the M&A transaction should be brought to date (using discounting).

Attention deserves the approach in [12], in which synergistic effects are estimated based on EBITDA. However, the approach to assessing the appropriateness of such operations from the point of view of the impact on the change in the level of economic security of the enterprise remained without attention.

5. Methods of research

In the study, the dialectic method, the analysis and synthesis method are used to systematize and generalize scientific concepts for assessing the effects of the implementation of investment projects and mergers and acquisitions.

6. Research results

Let’s suggest paying attention to the fact that as a result of the M&A transaction, a certain economic effect may be achieved, but at the same time, there may not be any effect from improving the level (and/or condition) of economic security. Therefore, let’s offer an indicator of the feasibility of an M&A transaction, based on a comparison of the magnitude of two effects:

1) the first is determined in the traditional way \(E(M&A)\); 2) the second – the effect of increasing the level (and condition) of the economic security of the enterprise, taking into account the security of its stakeholders \(E(ES)_{M&A}\). One of the criteria for the feasibility of an M&A transaction may be the following inequality:

\[
E(ES)_{M&A} > E(M&A).
\]

At the same time, the effect of increasing the level (and condition) of the economic security of the enterprise, taking into account the safety of its stakeholders \(E(ES)\),
can be determined by various approaches, the choice of which is determined by the purpose of the study.

As shown in previous studies [13], an indicator of the level of economic security of an enterprise (taking into account the security of its stakeholders of various groups) is based on the ratio of two parts. The component of the numerator is the sum of two indicators: the shortage of profit before tax (ΔEBT) and the underestimated value of the costs necessary to ensure the economic security of various groups of stakeholders. At the same time, the EBT shortage is calculated as the amount that the company loses due to non-compliance with predetermined threshold values of the corresponding indicators of various types of economic security. The denominator is the absolute value of the minimum required amount of profit before tax (liminal). This value is determined by the sum of the actual value of the EBT indicator and its shortage. The criterion for the level of economic security of the enterprise is the desire for the greatest value. So, as a result of the M&A transaction, not all of the listed indicators used in assessing the level of economic security can take on new values. Let’s consider it in more detail.

Let’s consider the definition of economic security of the enterprise without taking into account the security of its stakeholders, since the latter is a separate issue that requires a separate thorough study.

On the change in the magnitude of the shortfall in profit before tax, it should be noted that in determining it, all changes that occur as a result of a merger or acquisition are necessarily taken into account. Among such changes may be changes in sales volumes, revenue, expenses and others. However, the hierarchical construction of economic security, which is determined by the purpose of the study, can be determined by various approaches, the choice of which is determined by the purpose of the study.

In Fig. 2 serial numbers next to the ΔEBT indicator mean separate indicators of economic security, located at different levels of its hierarchical structure, on the basis of which the desired shortfall in profit before taxation is determined.

The hierarchical construction of economic security, which is the basis for assessing the EBT shortage, affects the magnitude of the effect of strategic measures (in particular, M&A transactions) precisely because of the need to determine its maximum value. As a result of the implementation of strategic measures, changes may be global in scope or have a local character, or may not affect individual areas of the enterprise. Moreover, as noted earlier, the effect can be positive, negative or neutral.

Moreover, let’s note that in the presence of an excess of EBT, the condition is accepted according to which the sum of its deficiency (ΔEBT) is equal to zero. Therefore, let’s distinguish between: the optimality criterion for the indicator of the EBT (ΔEBT) shortage are:

ΔEBT=0. (4)

However, in determining the feasibility of a strategic measure, attention is focused not on this value, but on its change, that is, in fact – on the dynamics of this shortage. In other words, the desired indicator is the difference between the amount of shortfall that existed before the implementation of the strategic measure, and the amount of shortage that can be obtained after its implementation. It should be noted that the magnitude of the EBT shortcomings is calculated on the basis of the conditions for achieving the value of indicators of all components of economic security of their threshold values.

In the following, let’s consider an example to assess the feasibility of mergers and acquisitions. The new value of the shortage of the EBT of the buyer’s company (holding) will be equal to the sum of the magnitude of the shortage that will occur after the M&A transaction and the shortage of the EBT of the enterprise – the object of the operation to be connected to the company (holding):

ΔEBTnew=ΔEBTbuyM+ΔEBTf, (5)

where ΔEBTnew – the new adjusted value of the shortage of EBT in the company-buyer (holding), which takes into account the EBT shortage of the new enterprise – the object of the M&A transaction, c. u.; its criterion is the desire for zero; ΔEBTbuyM – the value of the shortage of EBT in the company-buyer (holding), which can be obtained after the M&A transaction (that is, the value that will be received instead of the actual value), c. u.; its criterion is the desire for zero; ΔEBTf – the value of the EBT shortage for the enterprise – the object of the transaction M&A, c. u.

Therefore, to assess the feasibility of M&A transactions, it is necessary to calculate the amount, characterize the corresponding effect:
\[ \Delta C(EBT)_{M&A} = \Delta EBT_{buya} - \Delta EBT_{new}, \]  

or

\[ \Delta C(EBT)_{M&A} = \Delta EBT_{buya} - \Delta EBT_{buyM} - \Delta EBT_f, \]  

where \( \Delta C(EBT)_{M&A} \) – a quantitative assessment of the effect from the point of view of economic security, which manifests itself in a change in the deficiency of the indicator of the EBT due to the merger and acquisition, \( \Delta EBT_{buya} \) – the actual value of the EBT shortage in the company-buyer (holding), which takes place without taking into account the M&A transaction, c. u.

The following condition is desirable:

\[ \Delta EBT_{buyM} < \Delta EBT_{buya}. \]  

The criteria for the appropriateness of an M&A transaction from the point of view of the effect on the change in the amount of shortfalls in profit before tax (\( \Delta EBT \)) are:

\[ \Delta C(EBT)_{M&A} \rightarrow \text{max}. \]  

It is possible to ascertain the effect of reducing the shortcomings of the EBT only if a positive value of \( \Delta C(EBT)_{M&A} \) is obtained:

\[
\begin{cases} 
\text{if } \Delta C(EBT)_{M&A} > 0, & \text{then the effect of the reduction and shortage of EBT is;} \\
\text{if } \Delta C(EBT)_{M&A} \leq 0, & \text{then the effect of the reduction and shortage of EBT is absent.}
\end{cases}
\]  

To determine the indicator of economic efficiency of a strategic measure, it is necessary to take into account the corresponding amount of expenses, the implementation of which provides for a specific measure. For example, in M&A transactions, these may include a control premium, expenses related to the acquisition of an enterprise, organizational losses by agreement, and others. Usually such expenses are one-time. However, they can be in the form of investments, the implementation of which takes place either at own expense, or attracted (borrowed). Effects can be systematic or occur after a certain period of time. On this basis, it is advisable to determine the economic efficiency of M&A transactions from changes in the EBT, which is estimated using economic security indicators, using the formula:

\[ Ea(EBT)_{M&A} = \frac{\Delta EBT_{buya} - \Delta EBT_f - \sum_{i=t}^{T_e} \Delta EBT_{buyM} (1+r)^{-t}}{Bone + \sum_{i=t}^{T_e} \frac{B_{M&A}}{(1+r)^t}}, \]  

where \( Ea(EBT)_{M&A} \) – the value of the economic efficiency of M&A transactions from reducing the shortcomings of the EBT, c. u.; \( Bone \) – the sum of one-time costs incurred in connection with the implementation of the M&A transaction, c. u.; \( B_{M&A} \) – the sum of systematic expenses necessary for the implementation of the M&A transaction, c. u.; \( T_e \) – the period during which all the effects of M&A transactions will be obtained, manifested in the reduction of EBT shortcomings, years; \( T_e \) – the period during which expenses on M&A operations will occur, years; \( r \) – the discount coefficient, hours.

Let’s note that the length of the period of receiving effects from M&A transactions, manifested in the reduction of EBT shortcomings, may not coincide with the period of time necessary to repay the entire amount of the costs of the operation:

\[ T_e \neq T_{ex}. \]  

The proposed indicator of the economic efficiency of M&A transactions from reducing the shortcomings EBT (\( Ea(EBT)_{M&A} \)) has the following optimality criterion:

\[ Ea(EBT)_{M&A} \rightarrow \text{max}. \]  

It should be noted that the timing for obtaining effects from different strategic activities is different. Effects from the implementation of a real investment project, as a rule, can be obtained in 5, or even 10 years after its implementation. The effects of mergers and acquisitions are already apparent within the first 1–2 years of their implementation.

So, the fundamental changes that should be taken into account when evaluating the numerator of an indicator of the level of economic security of an enterprise are considered above. Since the denominator of this indicator is the sum of systematic expenses necessary for the implementation of a real investment project, as a rule, can be obtained in 5, or even 10 years after its implementation. The effects of mergers and acquisitions are already apparent within the first 1–2 years of their implementation.

Moreover, if a synergistic effect takes place, then 3 cases of its manifestation are possible:

1. If there is EBT shortage, this effect will manifest itself in reducing the magnitude of this shortage, that is:

\[ \Delta EBT_{syn} = \Delta C(EBT)_{M&A}. \]  

2. The magnitude of the effect obtained may be enough to reduce the available amount of EBT shortage, as well as to receive an additional amount of profit before tax, that is, its increase. Then the formula \( \Delta EBT_{syn} \) is defined as follows:

\[ \Delta EBT_{syn} = \Delta C(EBT)_{M&A} + \Delta EBT_{inc}, \]  

where \( \Delta EBT_{inc} \) – an increase in the additional amount of profit before tax as a result of the synergistic effect of the M&A transaction, c. u.
3. If the enterprises did not have a shortage of EBT ($\Delta\text{EBT}_{\text{inc}} = 0$), then the manifestation of the synergistic effect of the M&A transaction will be characterized only by an increase in the value of profit before tax:

$$\Delta\text{EBT}_{\text{syn}} = \Delta\text{EBT}_{\text{inc}}. \quad (17)$$

In a situation when an M&A transaction will produce an anergic effect, then its possible manifestations will be a reduction in the amount of profit before tax, an increase in its deficiency, etc. For its assessment, the three cases considered may be fair, but if interpreted accordingly, when instead of the increase used the amount of reduction, and instead of reducing the deficiency – its growth.

Thus, the level of economic security of the company-buyer (holding) (excluding the security of stakeholders), which can be achieved after the M&A ($P_{\text{M&A}}$) transaction will be determined by the formula:

$$P_{\text{M&A}} = 1 - \frac{\Delta\text{EBT}_{\text{new}}}{\text{EBT}_{\text{M&A}} + \Delta\text{EBT}_{\text{new}}}. \quad (18)$$

Obviously, in order to make a decision on the implementation of a merger and acquisition transaction, the level of economic security that can be achieved after such an operation must exceed not only quantitatively, but also qualitatively the level that was before the operation.

So, for the final assessment of the feasibility of an M&A operation, the following criterion must be met:

$$P_{\text{M&A}} > Pa(EcS), \quad (19)$$

where $Pa(EcS)$ – the actual level of economic security of the company (holding), which was before the merger and acquisition operation, including units.

Let’s consider a similar approach also appropriate for use in opposite situations – when a company (for example, an industrial holding), in order to improve its economic condition, decides to sell assets (existing enterprises). In this case, it is necessary to apply the above tools, assessing the appropriateness of the sale (disposal) operation from the point of view of the impact on the change in the level of economic security. However, due to the fact that a company (holding) will get rid of a certain enterprise, this will accordingly affect the EBT indicators. Therefore, instead of adding EBT and, accordingly, the EBT shortage of a new enterprise, these amounts should be taken away. It is understood that it is necessary to take into account the reduction in the amount of profit before tax that the company brought, it is planned to sell. This decrease will be due to several reasons. Among them, the fact that this company was a separate element of the production chain. Depriving the holding of such an element affects the activities of other enterprises participating in the holding. In this regard, a decrease in the amount of profit is not an automatic subtraction of the amount brought by the enterprise – the object of the operation.

Thus, the basis of the described methodology for assessing mergers and acquisitions is based on logic, the use of which is advisable for any other strategic measures for the development of the enterprise.

7. SWOT analysis of research results

Strengths. The strengths of the proposed methodological approach to assessing the feasibility of mergers and acquisitions are the ability to account for changes in the level of economic security of the enterprise as a result of such operations. In addition, the above can be applied to any other strategic activities.

Weaknesses. The weaknesses of the proposed methodological approach to assessing the feasibility of mergers and acquisitions are a fairly wide range of indicators – indicators, on the basis of which it is necessary to assess the change in the magnitude of the shortfall in profit before tax. This shortage is the main indicator, based on which assessment is based on the appropriateness of mergers and acquisitions in particular and other strategic measures in general.

Opportunities. Taking into account changes in the level of economic security of stakeholders in assessing the feasibility of mergers and acquisitions is a further area of this research.

The methodological approach contains universal tools, the use of which for the enterprise does not incur additional costs. This approach can be used for enterprises of various industries and scales of activity.

Application of the developed concept will allow more correctly assessing the consequences of mergers and acquisitions in particular and other strategic measures in general.

Threats. In the context of the economic crisis that is approaching, the application of the proposed methodological approach should include additional requirements. The latter are characterized by a change in the list of indicators – indicators of economic security, which are becoming more aggregated. At the strategic level, economic security indicators differ from operational level indicators. They are complemented by brand new indicators. In addition, the threshold (desired) values of these indicators not only increase, but also acquire qualitatively different characteristics. All of the above requires more information and, accordingly, additional labor costs for making calculations.

8. Conclusions

1. It is revealed that one of the effective strategic measures to ensure the economic security of the enterprise is real and long-term financial investment, as well as mergers and acquisitions. It is taken into account that in the conditions of cheapening of assets, the latter become attractive for purchase by larger or economically stable companies (holdings). At the same time, such assets may have problems with solvency, profitability, etc.

2. It is taken into account that as a result of mergers and acquisitions, enterprises may receive additional effects, which will be manifested in a reduction in the deficit of profit before tax.

3. It is shown that in most cases, mergers and acquisitions are carried out with the aim of embedding the acquired enterprise in the production and financial chain. It is substantiated that in connection with this, the values of the main economic indicators (the values of sales volumes, the sum of financial results and others) change, which leads to a change in the level of economic security of enterprises. Methodological approaches to assessing
the feasibility of M&A transactions have been improved, which, unlike existing ones, make it possible to compare the achieved level of economic security in accordance with and after the transaction. It is established that in modern conditions, this criterion should prevail over others.

References

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